

IN THE CLAIMS:

Please AMEND claims 1, 20 and 21, as follows.

1. (Currently Amended) A punching device comprising:

a die member having a plurality of die holes formed therein;

a plurality of punch members which are adapted to advance into the die holes to punch holes in a sheet;

an operating member having cam portions, said operating member being moved along the direction intersecting the direction of advancement of said punch members to cause said punch members to advance into the die holes by said cam portion;

detection means for detecting the position of said operating member; ~~and~~

a drive motor; and

control means for operating said drive motor so as to control ~~controlling~~ movement of said operating member wherein said control means operates said drive motor to ~~perform~~ ~~performs~~ a initializing operation for moving said operating member to a first rest position or to a second rest position before said control means operates said drive motor to ~~perform~~ ~~performs~~ a punching operation for punching holes in the sheet while moving said operating member between said first rest position and said second rest position,

wherein in said ~~in~~ initializing operation (i) said operating member is moved to the first rest position when said detection means detects that said operating member is present in a position nearer to the second rest position than the first rest position, and (ii) said operating member is moved to the second rest position when said detection means detects that said

operating member is present in a position nearer to the first rest position than the second rest position.

2. (Previously Presented) A punching device according to claim 1, wherein each of said cam portions has a straight groove and a cam groove for advancing said punch members into said die holes, and wherein, when said operating member is moved in one of opposite directions, at least one of said cam grooves of said cam portions acts on one of said punch members to selectively cause the same to advance.

3. (Original) A punching device according to claim 2, wherein one of said cam portions has two cam grooves at its center, and straight grooves formed at opposite ends of each cam groove, and is used to control two of said punch members.

4. (Original) A punching device according to claim 2, wherein one of said cam portions has one cam groove at its center, and straight grooves formed at opposite ends of the cam groove, and is used to control two of said punch members.

5. (Original) A punching device according to claim 2, wherein one of said cam portions has one cam groove at its end, and a straight groove formed at an end of the cam groove, and is used to control one of said punch members.

6. (Original) A punching device according to claim 2, wherein:

one of said cam portions has two cam grooves at its center, and straight grooves formed at opposite ends of each cam groove, and is used to control two of said punch members;

another of said cam portions has one cam groove at its center, and straight grooves formed at opposite ends of the cam groove, and is used to control two of said punch members;
and

a remaining one of said cam portions has one cam groove at its end, and a straight groove formed at an end of the cam groove, and is used to control one of said punch members, two of said punch members and three of said punch members being selectively caused to advance.

7. (Previously Presented) A punching device according to claim 1, wherein:
said operating member can be moved between the first rest position and the second rest position on the basis of a detection operation performed by said detection means.

8. (Previously Presented) A punching device according to claim 1, wherein
said operating member is movable in a moving area sectioned in order of a first rest area having the first rest position, a first punching area, a second punching area, and a second rest area having the second rest position,

wherein said operation control means performs the initializing operation in which
said operating member is moved to the second rest area when said operating member is located in the first rest area or in the first punching area, and said operating member is moved to the first

rest area when said operating member is located in the second rest area or in the second punching area.

Claims 9 and 10. (Cancelled)

11. (Previously Presented) A punching device according to claim 1, wherein a speed of the movement of said operating member in the initializing operation is lower than that in the punching operation.

12. (Previously Presented) A punching device according to claim 7, wherein said control means stops said operating member if said detection means does not detect the movement of said operating member after a lapse of a predetermined period of time from the time at which said control means starts the operation of said operating member.

13. (Original) A punching device according to claim 12, wherein the predetermined period of time in the case of the initializing operation is longer than that in the case of the punching operation.

14. (Previously Presented) A sheet processor comprising a punching device for punching holes in the sheet according to claim 1.

15. (Previously Presented) An image forming apparatus comprising:

image forming means for forming an image on a sheet; and
a punching device for punching holes in the sheet according to claim 1.

16. (Previously Presented) A punching device according to claim 1, wherein a third rest position is arranged on an opposite side of the first rest position with respect to the second rest position, and said operating member is movable in the first rest position, second rest position and the third rest position, and wherein said control means performs the initializing operation in which said operating member is moved to a secondary near rest position in the first, second and third rest positions.

17. (Previously Presented) A punching device according to claim 16,
wherein said operating member is movable in a moving area sectioned in order of a first rest area having the first rest position, a first punching area, a second punching area, a second rest area having the second rest position, a third punching area, a fourth punching area, and a third rest area having a third rest position,

wherein said control means performs the initializing operation in which said operating member is moved to the second rest area when said operating member is located in the first rest area or in the first punching area, said operating member is moved to the first rest area when said operating member is located in the second rest area or in the second punching area, said operating member is moved to the third rest area when said operating member is located in the second rest area or in the third punching area, and said operating member is moved to the

second rest area when said operating member is located in the third rest area or in the fourth punching area.

18. (Previously Presented) A punching device according to claim 16, wherein said operating member is movable between said first and third rest positions under the control of said control means;

said operating member punches a first number of holes in the member to be punched with the corresponding number of said punch member when said operating member performs a punching operation for causing the corresponding number of said punch members to advance into the corresponding die holes during its movement from the first rest position to the second rest position or its movement from the second rest position to the first rest position; and

said operating member punches a second number of holes in the member to be punched with the corresponding number of said punch members when said operating member performs a punching operation for causing the corresponding number of said punch members to advance into the corresponding die holes during its movement from the second rest position to the third rest position or its movement from the third rest position to the second rest position.

19. (Previously Presented) A punching device according to claim 18, wherein a speed of the movement of said operating member in the initializing operation is lower than that in the punching operation.

20. (Currently Amended) A punching device comprising:

a die member having a plurality of die holes formed therein;

a plurality of punch members adapted to advance into the die holes to punch holes in a sheet to be punched;

an operating member which moves along a direction intersecting a direction of advancement of said punch members to advance said punch members into the die holes, wherein a moving area of said operating member is sectioned in the order of a first rest area, a first punching area, a second punching area, and a second rest area;

detection means for detecting the position of said operating member; ~~and~~

a drive motor; and

control means for operating said drive motor to control ~~controlling~~ movement of said operating member on the base of the detection of said detection means,

wherein said control means operate said drive motor to control movement of said operating member to perform ~~performs~~ in the first punching area a punching operation for causing at least one of said punch members to advance into the corresponding die hole when moved from the first rest area to the second rest area, and performs in the second punching area a punching operation for causing said at least one of the punch members to advance into the corresponding die hole when moved from the second rest area to the first rest area,

wherein, before said punching operation, said control means operates said drive motor to perform ~~performs~~ an initializing operation of (i) moving said operating member to the second rest area when it is detected by said detection means that said operating member is present in the first rest area or the first punching area and (ii) moving said operating member to

the first rest area when it is detected by said detection means that said operating member is present in the second rest area or the second punching area.

21. (Currently Amended) A punching device comprising:

a die member having a plurality of die holes formed therein;

a plurality of punch members adapted to advance into the die holes to punch holes in a sheet to be punched;

an operating member which moves along a direction intersecting a direction of advancement of said punch members to advance said punch members into the die holes, wherein a moving area of said operating member is sectioned in the order of a first rest area, a first punching area, a second punching area, a second rest area, a third punching area, a fourth punching area, and a third rest area;

detection means for detecting the position of said operating member; and
a drive motor; and

control means for operating said drive motor to control ~~controlling~~ movement of said operation member on the basis of the detection by said detection means,

wherein said control means operates said drive motor to control movement of said operating member to punch ~~punches~~ a first number of holes in the sheet to be punched with the corresponding number of said punch members when said operating member performs in the first punching area a punching operation for causing the corresponding number of said punch members to advance into the corresponding die holes during its movement from the first rest area to the second rest area, and when said operating member performs in the second punching area a

punching operation for causing the corresponding number of said punch members to advance into the corresponding die holes during its movement from the second rest area to the first rest area; and

wherein said control means operates said drive motor to control movement of said operating member to punch ~~punches~~ a second number of holes in the sheet to be punched with the corresponding number of said punch members when said operating member performs in the third punching area a punching operation for causing the corresponding number of said punch members to advance into the corresponding die holes during its movement from the second rest area to the third rest area, and when said operating member performs in the fourth punching area a punching operation for causing the corresponding number of said punch members to advance into the corresponding die holes during its movement from the third rest area to the second rest area,

wherein, before said punching operation, said control means operates said drive motor to perform ~~performs~~ an initializing operation of (i) moving said operating member to the second rest area when it is detected by said detection means that said operating member is present in the first rest area or the first punching area, (ii) moving said operating member to the first rest area when it is detected by said detection means that said operating member is present in the second rest area or the second punching area, (iii) moving said operating member to the third rest area when it is detected by said detection member that said operating means is present in the third punching area, and (iv) moving said operating member to the second rest area when it is detected by said detection means that said operating member is present in the third rest area or the fourth punching area.